

MARKED-UP COPY OF AMENDMENTS

IN RE APPLICATION OF: :  
ATSUSHI SHIOTA ET AL. : GROUP ART UNIT: 1712  
SERIAL NO: 09/770,289 :  
FILED: JANUARY 29, 2001 : EXAMINER: FEELY, M.  
FOR: PROCESS FOR PRODUCING  
SILICA-BASED FILM, SILICA-  
BASED FILM, INSULATING FILM,  
AND SEMICONDUCTOR DEVICE

AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

In response to the Office Action dated February 28, 2002, please amend the application identified above as follows (marked-up copy of amendments attached):

IN THE CLAIMS

Please amend Claims 1, 3 and 6 as follows:

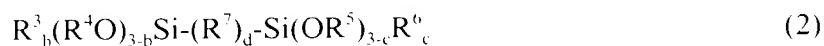
1. (Amended) A process for producing a silica-based film [which comprises], the process comprising irradiating a film comprising at least one siloxane compound with electron beams at an irradiation dose of from 1 to 500  $\mu\text{C} \cdot \text{cm}^2$  to thereby convert the film into a film having a dielectric constant of 3 or lower and having silicon carbide bonds represented by Si-C-Si.

3. (Amended) The process as claimed in claim 1, wherein the siloxane compound is a product of the hydrolysis and/or condensation of at least one compound selected from the group consisting of compounds represented by the following formula (1):



wherein  $R^1$  represents a monovalent organic group or a hydrogen atom;  $R^2$  represents a monovalent organic group; and  $a$  is an integer of 0 to 2,

and compounds represented by the following formula (2):



wherein  $R^3$ ,  $R^4$ ,  $R^5$ , and  $R^6$  may be the same or different and each represents a monovalent organic group;  $b$  and  $c$  may be the same or different and each is an integer of 0 to 2;  $R^7$  represents an oxygen atom or a group represented by  $-(CH_2)_n-$ , wherein  $n$  is 1 to 6; and  $d$  is 0 or 1.

6. (Amended) The process as claimed in claim 1, wherein the electron beam irradiation is conducted at an energy of from 0.1 to 50 keV [in an irradiation dose of from 1 to 1,000  $\mu C/cm^2$ ].

Please add new Claims 16 as follows:

--16. (New) The process as claimed in claim 1, wherein the irradiation dose is from 1 to 200  $\mu C/cm^2$ .--